

BEST AVAILABLE COPY

Application No. 10/767985
Page 6

Amendment
Attorney Docket No. S63.2B-11023-US01

Amendments To The Claims:

1. (Currently amended) An apparatus for loading a medical device self-expanding stent into a catheter delivery system, the apparatus constructed and arranged to matingly engage a crimping apparatus for reducing the diameter of said medical device self-expanding stent from a first diameter to a second diameter prior to loading said medical device self-expanding stent into said catheter delivery system.
2. (Original) The apparatus of claim 1, said apparatus having an alignment plug with an external taper for matingly engaging said crimping apparatus.
3. (Original) The apparatus of claim 2 in combination with a crimping apparatus having an actuation hub with an internal taper, said internal taper matingly engaging said external taper of said alignment plug.
4. (Currently amended) An apparatus for loading a medical device into a catheter delivery system, the apparatus constructed and arranged to matingly engage a crimping apparatus for reducing the diameter of said medical device from a first diameter to a second diameter prior to loading said medical device into said catheter delivery system;

The the apparatus of claim 1 further comprising an introducer shaft having an internal lumen for receiving said catheter delivery system.

5. (Original) The apparatus of claim 4 wherein said introducer shaft has an outer triangular configuration.
6. (Original) The apparatus of claim 4 wherein said introducer shaft further comprises an introducer plug having a lumen through which the medical device is introduced.
7. (Original) The apparatus of claim 6 wherein said lumen of said introducer plug tapers from an opening having a larger diameter at the opening of the introducer shaft to an opening having a smaller diameter for engaging an outer catheter shaft within said introducer shaft.
8. (Original) The apparatus of claim 7 wherein said introducer plug has a length which is slightly less than the length of a stent strut.
9. (Original) The apparatus of claim 6 wherein said introducer plug is modular with said introducer shaft.
10. (Original) The apparatus of claim 6 wherein said introducer plug has conical flanged edges extending from said opening for engaging an outer catheter shaft.

BEST AVAILABLE COPY

Application No. 10/767985

Page 7

Amendment

Attorney Docket No. S63.2B-11023-US01

11. (Original) The apparatus of claim 6 wherein said introducer plug has flat edges at said opening for engaging an outer catheter shaft within said introducer shaft.
12. (Currently amended) In combination, a [[A]] crimping apparatus for reducing the diameter of a medical device from a first diameter to a second diameter and a loading apparatus for introducing said medical device into a catheter delivery system, the crimping apparatus comprising an internal taper constructed and arranged to matingly engage [[e]] an external taper on the loading apparatus for introducing said medical device into a catheter delivery system.
13. (Currently amended) The apparatus combination of claim 12, said crimping apparatus having an actuation hub, said actuation hub having an internal taper for matingly engaging a loading apparatus.
14. (Currently amended) The apparatus combination of claim 13 in combination with a loading apparatus, said loading apparatus having comprising a plug, the plug having the with an external taper for matingly engaging said actuation hub of said crimping apparatus.
15. (Currently amended) The apparatus combination of claim 12, the crimping apparatus comprising at least three coupled, movable blades which form an aperture whose size may be varied.
16. (Original) In combination, a crimping apparatus for reducing the diameter of a medical device from a first diameter to a second diameter and a loading apparatus for introducing said medical device into a catheter delivery system, said crimping apparatus constructed and arranged to matingly engage said loading apparatus and said loading apparatus constructed and arranged to matingly engage said crimping apparatus.
17. (Original) The combination of claim 16 wherein said crimping apparatus has an actuation hub having an internal taper and said loading apparatus having an alignment plug having an external taper for matingly engaging said actuation hub of said crimping apparatus.
18. (Original) The combination of claim 16 wherein said loading apparatus further comprises an introducer shaft.
19. (Original) The combination of claim 18 wherein said introducer shaft has an external triangular configuration.
20. (Original) The combination of claim 19, said introducer shaft further comprising an introducer plug.

BEST AVAILABLE COPY

Application No. 10/767985
Page 8

Amendment
Attorney Docket No. S63.2B-11023-US01

21. (Original) The combination of claim 18, said introducer plug having a lumen tapering from a first opening having a larger diameter adjacent the opening of the introducer shaft through which a medical device is introduced and a second opening having a smaller diameter for engaging an outer catheter shaft within said introducer shaft.
22. (Original) The introducer plug of claim 21 wherein said first opening has a diameter which is slightly larger than an aperture of a crimping apparatus which has been sized to receive a stent therein.
23. (Original) The introducer plug of claim 21 wherein said second opening has a diameter which is slightly larger than the diameter of an outer catheter shaft.
24. (Original) The combination of claim 20 wherein said introducer plug has a length which is slightly less than the length of a stent strut.
25. (Currently amended) An apparatus for reducing the diameter of a medical device from a first diameter to a second diameter and loading the medical device into a catheter, the apparatus comprising a crimping portion having at least three coupled, movable blades which form an aperture whose size may be varied, ~~wherein at least one of said blades further comprises~~ and a tool for matingly engaging ~~an apparatus for~~ a loading portion of the apparatus, the loading portion having a tapered internal lumen ~~said medical device into a catheter delivery system~~.
26. (Original) The apparatus of claim 25 wherein said tool is a conical flange adjacent the edge of said at least one of said blades.
27. (Original) The apparatus of claim 25 wherein said tool is integral with at least one of said blades.
28. (Original) The apparatus of claim 25 wherein each of said blades has a tool which is integral with the blade.
29. (Original) The apparatus of claim 25 wherein said tool is modular to at least one of said blades.
30. (Original) The apparatus of claim 25 wherein each of said blades has a modular tool.
31. (Original) The apparatus of claim 25 wherein said tool is modular with all of said blades.
32. (Original) The apparatus of claim 25 wherein said at least one tool is attached to at least one of said blades mechanically.
33. (Original) The apparatus of claim 32 wherein said at least one tool is attached to at least one

Application No. 10/767985
Page 9

Amendment
Attorney Docket No. S63.2B-11023-US01

of said blades with a screw, thread, weld or adhesively.

34. (Original) The apparatus of claim 25 wherein said at least one tool is polymeric, metallic or a combination thereof.

35. (Original) The apparatus of claim 25 wherein said at least one tool is formed from the same material as said blades.

36. (Original) The apparatus of claim 25 wherein said at least one tool is formed from at least one polymeric material selected from the group consisting of polyolefins, polyamides, polyesters, polyurethanes, polyacetals, polycarbonate, copolymers thereof and mixtures thereof.

37. (Original) The apparatus of claim 36 wherein said at least one polymeric material is selected from the group consisting of nylon, polyethylene terephthalate, polybutylene terephthalate, acetal homopolymers, polyetherether ketone, and mixtures thereof.

38. (Original) The apparatus of claim 25 wherein said at least one tool is formed from at least one metal selected from the group consisting of copper, cobalt, stainless steel, steel, aluminum, and alloys thereof.

39. (Original) The apparatus of claim 38 further comprising a coating which reduces the coefficient of friction.

40. (Original) The apparatus of claim 39 wherein said coating comprises polytetrafluoroethylene.

41. (Original) The apparatus of claim 25 wherein said at least one tool is formed from ceramic.

42. (Original) The apparatus of claim 25 wherein said medical device is a stent.

43. (Currently amended) An apparatus comprising a crimping portion for crimping a medical device and a loading portion for loading said medical device into a catheter, the crimping portion having a crimping aperture, the loading portion having an internal lumen, the apparatus constructed and arranged for coaxial self-alignment between the crimping aperture and the internal lumen with an apparatus for loading said medical device into a catheter delivery system.

44. (Withdrawn) A method of crimping a medical device and loading the medical device into an external shaft of a catheter delivery device, the method comprising the steps of:

- providing a crimping apparatus, said crimping apparatus having an actuation hub for matingly engaging a loading apparatus;

Application No. 10/767985
Page 10

Amendment
Attorney Docket No. S63.2B-11023-US01

- b) placing the medical device into the crimping apparatus;
- c) applying a radial inward force while said medical device is in said crimping apparatus such that the diameter of said medical device is reduced from a first diameter to a second diameter;
- d) providing a loading apparatus, said loading apparatus having a plug for matingly engaging said crimping apparatus;
- e) mating said crimping apparatus with said loading apparatus; and
- f) transporting said medical device from said crimping apparatus to said loading apparatus.

45. (Withdrawn) The method of claim 44 wherein said medical device is transported using forced air.

46. (Withdrawn) The method of claim 44 wherein said medical device is transported from said crimping apparatus to said loading apparatus through an introducer shaft having an introducer plug, said plug having an internal taper from a larger opening closest to said crimping device to a smaller opening adjacent to said catheter delivery assembly.

47. (Withdrawn) The method of claim 46 wherein said crimping apparatus has an aperture whose opening is slightly smaller diameter than the opening of the introducer plug closest to said crimping apparatus.

48. (Withdrawn) The method of claim 46 wherein said opening of said introducer plug adjacent said distal end of said catheter delivery assembly has a diameter which is slightly larger than said opening of said distal outer catheter shaft adjacent to said introducer plug.